

Application No. 10/762,825  
Response to Office Action

Customer No. 01933

Listing of Claims:

1. (Currently Amended) An image processing apparatus,  
comprising:

an exposing device for exposing an image forming material so  
as to form a latent image on the image forming material based on  
5 image data;

a thermal developing device for developing and visualizing  
the latent image on the exposed image forming material so as to  
form an image;

a measuring device for measuring ~~the~~ an image density of the  
10 image on the developed image forming material;

a calibrating device for forming a table to define a  
~~relation~~ relationship between an image signal and image density  
based on the basis of plural a plurality of different test image  
data and corresponding measured-image densities ~~thereof~~;

15 a counting device for counting ~~the~~ a number of the image  
forming ~~material~~ materials developed within a predetermined time;  
and

a controlling device for controlling the exposing device,  
the thermal developing device, the measuring device, the  
20 calibrating device and the counting device;

wherein the controlling device ~~stop-forming~~ prevents  
formation of the table for a predetermined time when ~~the counting~~

Application No. 10/762,825  
Response to Office Action

Customer No. 01933

~~device counts~~ the number of the developed image forming material  
materials counted by the counted device is more than a  
25 predetermined number.

2. (Currently Amended) The image processing apparatus of  
claim 1, wherein, when forming a diagnosis image, said exposing  
device exposes to a part of the image forming material with a  
light quantity ~~through the table~~ corresponding to a predetermined  
5 density ~~at the time of forming a diagnosis image and measuring~~  
based on the table;

wherein a density on the is measured at said part of the  
image forming material; and on which the diagnosis image is  
formed,

10 wherein the ~~image processing apparatus further comprises: a~~  
controlling device ~~for controlling~~ controls at least one of the  
exposing device and the thermal developing device ~~in such a way~~  
so as to optimize the density of the diagnosis image ~~according to~~  
in accordance with the result measured density of the said part  
15 of the image forming material ~~obtained by measuring~~.

3. (Currently Amended) The image processing apparatus of  
claim 1, wherein the thermal developing device includes a heating  
~~dram~~ drum that is heated by a heater so as to form the image.

Application No. 10/762,825  
Response to Office Action

Customer No. 01933

4. (Currently Amended) The image processing apparatus of claim 3, wherein a surface of the heating ~~dram~~ has a drum includes an area that is not heated from a back of the area.

5. (Currently Amended) An image processing apparatus, comprising:

an exposing device for exposing an image forming material so as to form a latent image on the image forming material based on  
5 image data;

a thermal developing device for developing and visualizing the latent image on the exposed image forming material, wherein the developing device includes a heating ~~dram~~ drum which is heated by a heater so as to form an image;

10 a measuring device for measuring ~~the~~ an image density of the image on the developed image forming material;

a calibrating device for forming a table to define a relation relationship between an image signal and image density based on the basis of plural a plurality of different test image  
15 data and corresponding measured-image densities thereof;

a thermal sensing device for sensing a temperature of a surface on the heating ~~dram~~ drum; and

a controlling device for controlling the exposing device, the thermal developing device, the measuring device, the  
20 calibrating device and the thermal sensing device;

Application No. 10/762,825  
Response to Office Action

Customer No. 01933

wherein the controlling device ~~stop-forming prevents~~  
formation of the table when the temperature sensed by the thermal  
sensing device ~~senses the temperature out is outside of a~~  
predetermined temperature range of temperature.

6. (Currently Amended) The image processing apparatus of  
claim 5, wherein, when forming a diagnosis image, said exposing  
device exposes to a part of the image forming material with a  
light quantity ~~through the table~~ corresponding to a predetermined  
5 density ~~at the time of forming a diagnosis image and measuring~~  
based on the table;

wherein a density on the is measured at said part of the  
image forming material; ~~and on which the diagnosis image is~~  
formed,

10 wherein the ~~image processing apparatus further comprises: a~~  
controlling device ~~for controlling~~ controls at least one of the  
exposing device and the thermal developing device ~~in such a way~~  
so as to optimize the density of the diagnosis image ~~according to~~  
in accordance with the result measured density of the said part  
15 of the image forming material ~~obtained by measuring.~~

7. (Currently Amended) The image processing apparatus of  
claim 5, wherein the thermal sensing device is provided on an

Application No. 10/762,825  
Response to Office Action

Customer No. 01933

inner ~~circumference~~ circumferential surface of the heating ~~drum~~  
drum.

8. (Currently Amended) The image processing apparatus of claim 5, wherein the thermal sensing device is provided on an outer ~~circumference~~ circumferential surface of the heating ~~drum~~  
drum.

9. (Currently Amended) The image processing apparatus of claim 5, wherein ~~a the~~ surface of the heating ~~drum has a~~ drum  
includes an area that is not heated from a back of the area.

10. (Currently Amended) ~~A~~ An image processing method of an  
~~image processing, comprising the steps of:~~

~~exposing for~~ exposing an image forming material so as to  
form a latent image on the image forming material based on image  
5 data;

~~thermal developing for~~ developing and visualizing the latent  
image on the exposed image forming material with a thermal  
developing device so as to form an image ~~by a developing device;~~

~~measuring for~~ measuring the an image density of the image on  
10 the developed image forming material;

~~calibrating for~~ forming a table to define a relation  
relationship between an image signal and image density based on

Application No. 10/762,825  
Response to Office Action

Customer No. 01933

~~the basis of plural~~ a plurality of different test image data and  
corresponding measured-image densities thereof;

- 15        ~~counting for counting the~~ a number of the image forming  
material ~~materials~~ developed within a predetermined time; and  
          ~~controlling to form~~ preventing formation of the table so as  
to stop for a predetermined time when ~~the counting step counts~~  
the counted number of the developed image forming material  
20        materials is more than a predetermined number.

11. (Currently Amended) The method of claim 10, wherein,  
~~when forming a diagnosis image, said exposing step exposes to a~~  
part of the image forming material is exposed with a light  
quantity ~~through the table~~ corresponding to a predetermined  
5        density ~~at the time of forming a diagnosis image and measuring~~  
based on the table;

wherein a density on the is measured at said part of the  
image forming material; ~~and on which the diagnosis image is~~  
~~formed;~~

- 10        wherein ~~the method further comprises the step of:~~  
~~controlling for controlling~~ at least one of the exposing and the  
thermal developing in ~~such a way~~ device is controlled so as to  
optimize the density of the diagnosis image ~~according to in~~  
accordance with the result measured density of the said part of  
15        the image forming material ~~obtained by measuring.~~

Application No. 10/762,825  
Response to Office Action

Customer No. 01933

12. (Currently Amended) The method of claim 10, wherein the thermal developing device includes a heating ~~dram~~ drum that is heated by a heater so as to form the image.

13. (Currently Amended) The method of claim 10, wherein a surface of the heating ~~dram has a~~ drum includes an area that is not heated from a back of the area.

14. (Currently Amended) ~~A~~ An image processing method ~~of an image processing,~~ comprising ~~the steps of:~~

~~exposing for~~ exposing an image forming material so as to form a latent image on the image forming material based on image data;

~~thermal developing for~~ developing and visualizing the latent image on the exposed image forming material by with a thermal developing device, ~~wherein the thermal developing device that~~ includes a heating ~~dram~~ drum which is heated by a heater so as to form an image;

~~measuring for~~ measuring the an image density of the image on the developed image forming material;

~~calibrating for~~ forming a table to define a ~~relation~~ relationship between an image signal and image density based on

Application No. 10/762,825  
Response to Office Action

Customer No. 01933

15 ~~the basis of plural~~ a plurality of different test image data and  
~~corresponding~~ measured-image densities thereof;

~~thermal sensing for sensing a~~ temperature of a surface on  
the heating ~~dram by drum~~ with a thermal sensing device;

~~controlling to form the table so as to stop preventing~~  
20 ~~formation of the table~~ when the thermal sensing step senses the  
temperature ~~out sensed by the temperature sensing device is~~  
~~outside of a predetermined temperature range of temperature.~~

15. (Currently Amended) The method of claim 14, wherein,  
~~when forming a diagnosis image, said exposing step exposes to a~~  
part of the image forming material is exposed with a light  
quantity ~~through the table~~ corresponding to a predetermined  
5 ~~density at the time of forming a diagnosis image and measuring~~  
based on the table;

~~wherein a density on the~~ is measured at said part of the  
image forming material; ~~and on which the diagnosis image is~~  
~~formed;~~

10 ~~wherein the method further comprises the step of: a~~  
~~controlling for controlling~~ at least one of the exposing and the  
thermal developing ~~in such a way device is controlled so as to~~  
optimize the density of the diagnosis image ~~according to in~~  
accordance with the result measured density of the said part of  
15 the image forming material ~~obtained by measuring.~~



Application No. 10/762,825  
Response to Office Action

Customer No. 01933

16. (Currently Amended) The method of claim 14, wherein the thermal sensing device is provided on an inner ~~circumference~~ circumferential surface of the heating ~~dram~~ drum.

17. (Currently Amended) The method of claim 14, wherein the thermal sensing device is provided on an outer ~~circumference~~ circumferential surface of the heating ~~dram~~ drum.

18. (Currently Amended) The method of claim 14, wherein ~~a~~ the surface of the heating ~~dram~~ has a drum includes an area that is not heated from a back of the area.

19. (Currently Amended) A computer-readable storage medium having a computer program to control stored thereon that is executable by a computer to cause the computer to function as an image processor, ~~wherein the image processor comprises that~~  
5 performs functions comprising:

an exposing function for exposing an image forming material so as to form a latent image on the image forming material based on image data;

a thermal developing function for developing and visualizing  
10 the latent image on the exposed image forming material with a

Application No. 10/762,825  
Response to Office Action

Customer No. 01933

thermal developing device so as to form an image by a developing device;

a measuring function for measuring ~~the~~ an image density of the image on the developed image forming material;

15 a calibrating function for forming a table to define a relation relationship between an image signal and image density based on the ~~basis of plural~~ a plurality of different test image data and corresponding measured-image densities thereof;

20 a counting function for counting ~~the~~ a number of the image forming material materials developed within a predetermined time; and

a controlling function ~~to form~~ preventing formation of the table ~~so as to stop~~ for a predetermined time when ~~the counting function counts~~ the counted number of the developed image forming material materials is more than a predetermined number.

20. (Currently Amended) The ~~computer program~~ computer-readable storage medium of claim 19, wherein, when forming a diagnosis image, said exposing function exposes ~~to~~ a part of the image forming material with a light quantity ~~through the table~~ corresponding to a predetermined density ~~at the time of forming a diagnosis image and measuring~~ based on the table;

Application No. 10/762,825  
Response to Office Action

Customer No. 01933

wherein a density ~~on the~~ is measured at said part of the  
image forming material; ~~and on which the diagnosis image is~~  
formed,

10        wherein the ~~computer program further comprises: a~~  
controlling function ~~for controlling~~ controls at least one of the  
exposing and the thermal developing ~~in such a way~~ device so as to  
optimize the density of the diagnosis image ~~according to in~~  
15        accordance with the result measured density of ~~the~~ said part of  
the image forming material ~~obtained by measuring.~~

21. (Currently Amended) The ~~computer program~~ computer-  
readable storage medium of claim 19, wherein the thermal  
developing device includes a heating ~~dram~~ drum that is heated by  
a heater so as to form the image.

22. (Currently Amended) The ~~computer program~~ computer-  
readable storage medium of claim 19, wherein a surface of the  
heating ~~dram has a~~ drum includes an area that is not heated from  
a back of the area.

23. (Currently Amended) A computer-readable storage medium  
having a computer program to control stored thereon that is  
executable by a computer to cause the computer to function as an

Application No. 10/762,825  
Response to Office Action

Customer No. 01933

image processor , ~~wherein the image processor comprises that~~

5 performs functions comprising:

an exposing function for exposing an image forming material  
so as to form a latent image on the image forming material based  
on image data;

10 a thermal developing function for developing and visualizing  
the latent image on the exposed image forming material by with a  
thermal developing device , ~~wherein the thermal developing device~~  
that includes a heating ~~drum~~ drum which is heated by a heater so  
as to form an image;

15 a measuring function for measuring ~~the~~ an image density of  
the image on the developed image forming material;

a calibrating function for forming a table to define a  
~~relation~~ relationship between an image signal and image density  
based on ~~the basis of plural~~ a plurality of different test image  
data and corresponding measured-image densities ~~thereof~~;

20 a thermal sensing function for sensing a temperature of a  
surface on the heating ~~drum~~ by drum with a thermal sensing  
device; and

25 a controlling function ~~to form the table so as to stop~~  
~~preventing formation of the table~~ when the ~~thermal sensing step~~  
~~senses~~ the temperature ~~out~~ sensed by the temperature sensing  
device is outside of a predetermined temperature range of  
temperature.

Application No. 10/762,825  
Response to Office Action

Customer No. 01933

24. (Currently Amended) The ~~computer program~~ computer-readable storage medium of claim 23, wherein, when forming a diagnosis image, said exposing function exposes to a part of the image forming material with a light quantity ~~through the table~~ corresponding to a predetermined density ~~at the time of forming a diagnosis image and measuring~~ based on the table;

wherein a density on the is measured at said part of the image forming material; and on which the diagnosis image is formed,

wherein the ~~computer program further comprises: a~~ controlling function ~~for controlling~~ controls at least one of the exposing and the thermal developing ~~in such a way~~ device so as to optimize the density of the diagnosis image ~~according to in~~ accordance with the result measured density of the said part of the image forming material ~~obtained by measuring~~.

25. (Currently Amended) The ~~computer program~~ computer-readable storage medium of claim 23, wherein the thermal sensing device is provided on an inner ~~circumference~~ circumferential surface of the heating ~~dram~~ drum.

26. (Currently Amended) The ~~computer program~~ computer-readable storage medium of claim 23, wherein the thermal sensing

Application No. 10/762,825  
Response to Office Action

Customer No. 01933

device is provided on an outer ~~circumference~~ circumferential  
surface of the heating ~~drum~~ drum.

27. (Currently Amended) The ~~computer program~~ computer-  
readable storage medium of claim 23, wherein ~~a~~ the surface of the  
heating ~~drum has a~~ drum includes an area that is not heated from  
a back of the area.